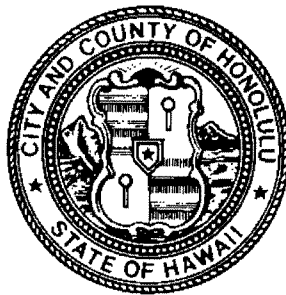


**GENERAL SAFETY
TAILGATE LESSON PLAN**

Asbestos Safety

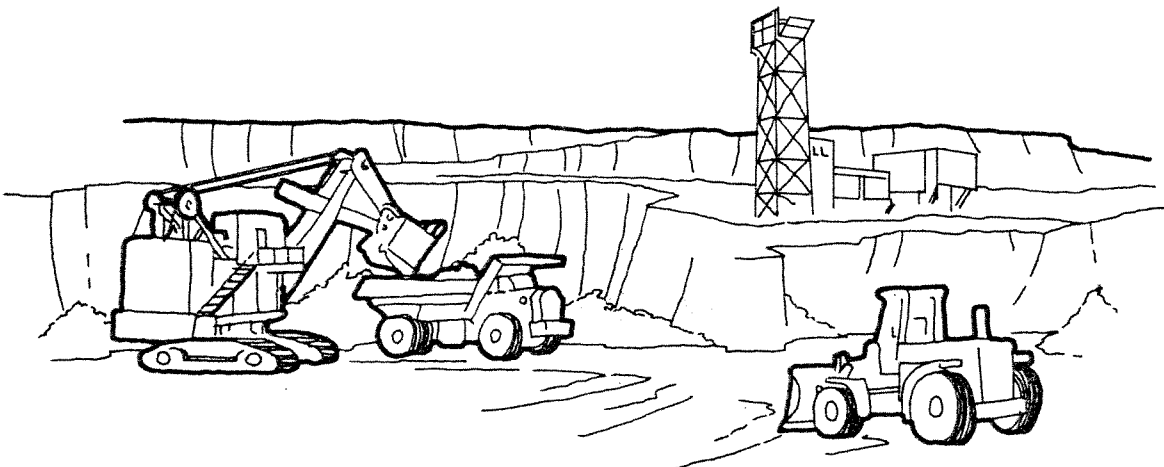


CITY AND COUNTY OF HONOLULU
DEPARTMENT OF HUMAN RESOURCES
Division of Industrial Safety and Workers' Compensation

ASBESTOS SAFETY

WHAT IS ASBESTOS?

ASBESTOS IS A TERM FOR A GROUP OF NATURALLY OCCURRING MINERALS THAT SEPARATE INTO FIBERS. WHEN ASBESTOS CONTAINING MATERIAL IS DISTURBED, ASBESTOS FIBERS MAY BECOME SUSPENDED IN THE AIR FOR MANY HOURS, CONTAMINATING THE SURROUNDING ENVIRONMENT. WHEN THE FIBERS HAVE ENTERED THE AIR, INDIVIDUALS WITHIN THE AREA CAN BE EXPOSED AND INHALE THE FIBERS. ALTHOUGH MOST FIBERS WILL NOT REMAIN IN THE LUNGS, THOSE THAT DO WILL STAY INDEFINITELY.



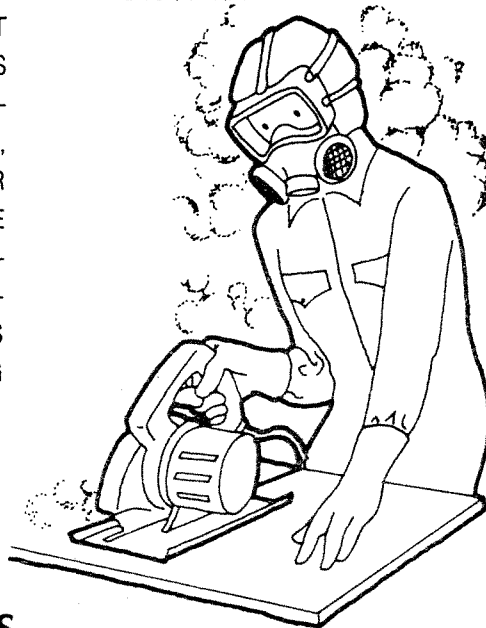
HOW IS ASBESTOS USED?

ASBESTOS BECAME A POPULAR COMMERCIAL PRODUCT BECAUSE OF ITS NONCOMBUSTIBLE PROPERTIES, RESISTANCE TO CORROSION, HIGH TENSILE STRENGTH, AND LOW ELECTRICAL CONDUCTIVITY. ASBESTOS HAS BEEN USED IN BRAKE AND CLUTCH LININGS, ROOFING, SIDING, WALLBOARD, VINYL FLOOR TILE, SEALANTS, PLASTICS, CEMENT PRODUCTS, ASBESTOS-CEMENT PIPE, PAPER PRODUCTS, FIREPROOF TEXTILES, AND THERMAL/ACOUSTIC INSULATION.

WHAT IS FRIABILITY?

THE POTENTIAL OF FOR ASBESTOS CONTAINING MATERIAL (ACM) TO RELEASE FIBERS IS DEPENDANT UPON ITS DEGREE OF FRIABILITY. ACM MATERIALS THAT CAN BE CRUMBLLED WITH HAND PRESSURE, ARE LIKELY TO EMIT FIBERS AND ARE CONSIDERED FRIABLE ACM. THE FIBROUS OR FLUFFY SPRAY-APPLIED ASBESTOS CONTAINING MATERIALS FOUND IN MANY BUILDINGS FOR FIREPROOFING, INSULATING, SOUND PROOFING, AND PIPE AND BOILER WRAP ARE GENERALLY CONSIDERED FRIABLE. SOME MATERIALS, SUCH AS VINYL-ASBESTOS TILE, ASBESTOS-CEMENT PIPE AND SHEETING ARE CONSIDERED NONFRIABLE AND GENERALLY DO NOT EMIT AIRBORNE FIBERS UNLESS SUBJECTED TO DRILLING, SANDING OR SAWING OPERATIONS.

Tiny, sharp asbestos fibers can become embedded in the lungs and digestive system. Once trapped, they can't be removed -- but they can affect health.



HEALTH RISKS

(Avoid breathing asbestos fibers)

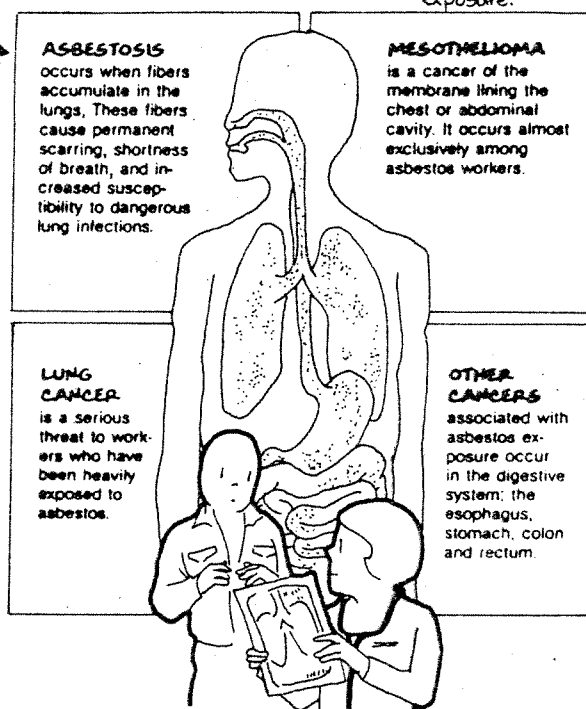
BREATHING AIRBORNE ASBESTOS FIBERS MAY CAUSE ASBESTOS-RELATED DISEASES AS SHOWN HERE:

SMOKING VERY OFTEN INCREASES THE RISK OF LUNG CANCER FOR PEOPLE EXPOSED TO ASBESTOS. LUNG CANCER OCCURS **30-90 TIMES MORE OFTEN AMONG ASBESTOS WORKERS WHO SMOKE** THAN IN THE NON-SMOKING GENERAL PUBLIC.

AIRBORNE ASBESTOS LEVELS IN BUILDINGS AND SCHOOLS ARE MUCH LOWER THAN THOSE IN INDUSTRIAL WORKPLACES WHERE SERIOUS HEALTH EFFECTS HAVE BEEN OBSERVED. HOWEVER, IT IS STILL IMPORTANT TO MINIMIZE EXPOSURE TO ASBESTOS FIBERS, BY FOLLOWING PROPER WORK PRACTICES.

SOME ASBESTOS-RELATED DISEASES

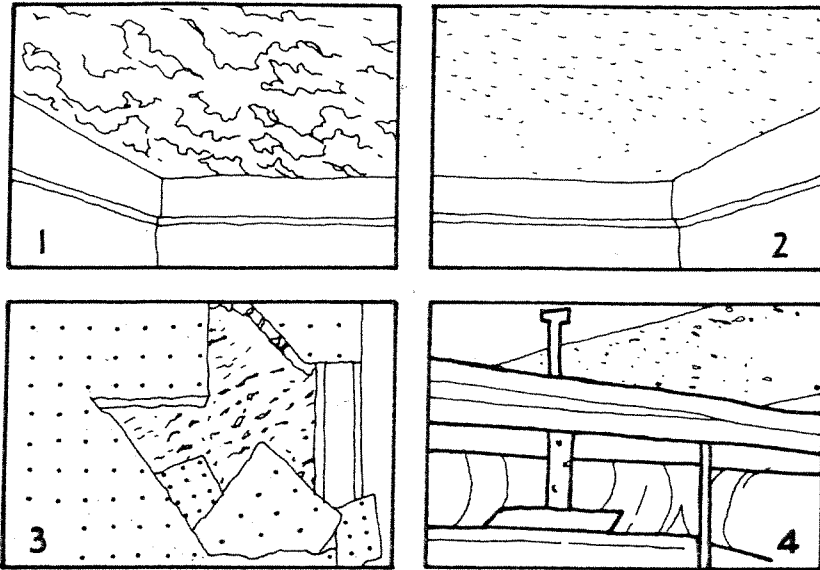
These diseases may not appear until 20 to 40 years after exposure.



Fortunately, potential health problems can be prevented by taking certain precautions.

RECOGNIZING ASBESTOS CONTAINING MATERIALS

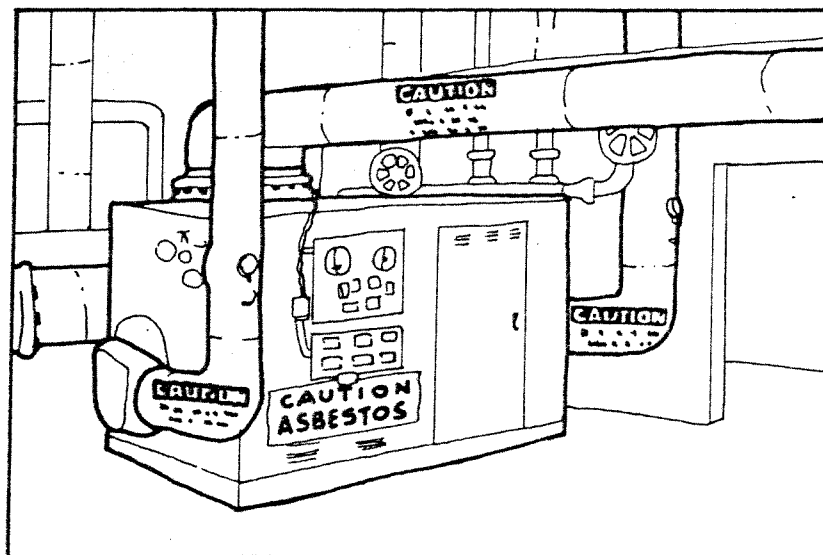
*(Become familiar with the types of materials that could contain asbestos.
The only way to know for sure is to get the material tested.)*



1. FRIABLE, FLUFFY SPRAYED-ON MATERIAL (FIREPROOFING).
2. FRIABLE, CEMENTITIOUS SPRAYED-ON OR TROWELED MATERIAL (ACOUSTICAL PLASTER).
3. PERFORATED, NONFRIABLE WALLBOARD WITH FRIABLE SPRAYED-ON MATERIAL BEHIND.
4. FRIABLE FIREPROOFING MATERIAL ON BEAM WITH PIPE INSULATION BELOW.

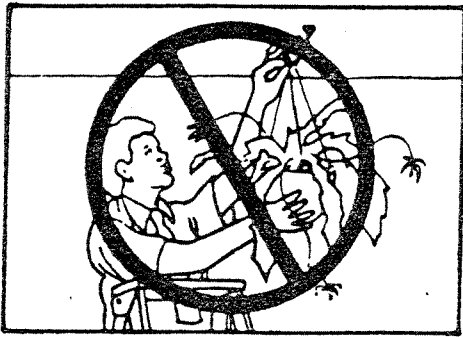
DO NOT OVERLOOK THE BOILER ROOM.

- BOILERS AND PIPES ARE OFTEN INSULATED WITH ASBESTOS CONTAINING MATERIALS.
- THE WALLS AND CEILING OF THE BOILER ROOM MAY BE COVERED WITH ASBESTOS CONTAINING MATERIALS.

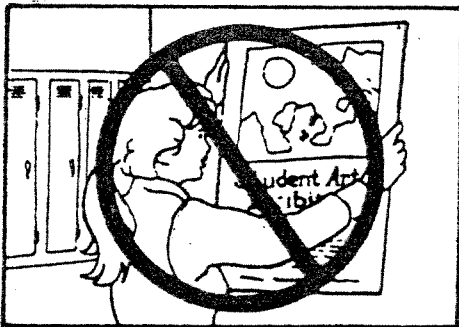


DISTURBING ASBESTOS MATERIAL

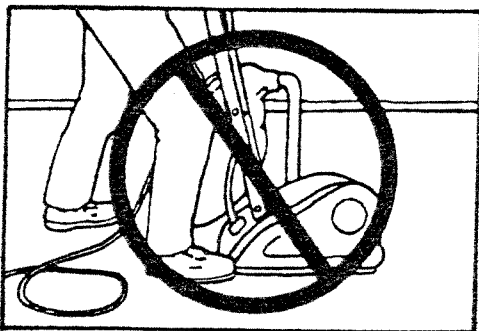
(Avoid touching or disturbing asbestos materials on walls, ceilings, pipes or boilers. Asbestos fibers can be released when the material is disturbed.)



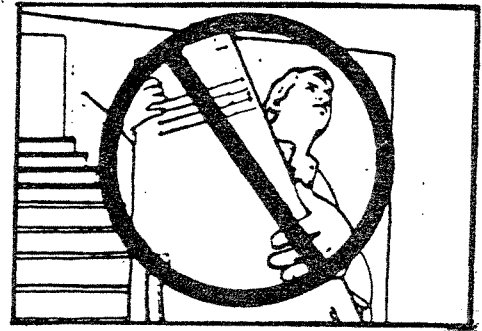
- **Do not** drill holes in asbestos materials
- **Do not** hang plants or anything else from ceilings covered with asbestos materials.



- **Do not** pin or hang pictures on walls covered with asbestos materials.



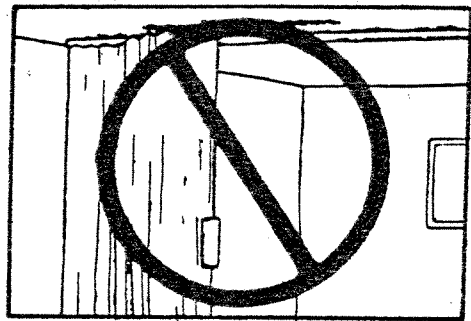
- **Do not** sand asbestos floor tiles or backing material.



- **Do not** damage asbestos material while moving furniture, etc.



- **Do not** disturb asbestos material when replacing light bulbs, etc.

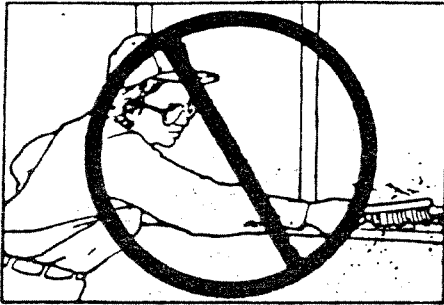


- **Do not** allow curtains, drapes or dividers to damage asbestos materials.

CLEANING

*(Improper cleaning can stir up asbestos fibers.
Take care when cleaning rooms that contain asbestos materials.)*

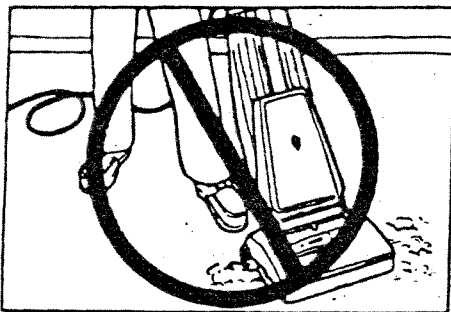
NOT THIS



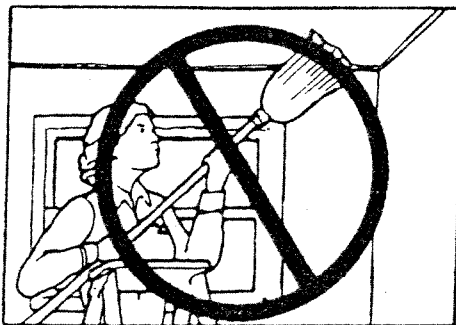
- **Do not** dust with a brush.



- **Do not** dry sweep floors.

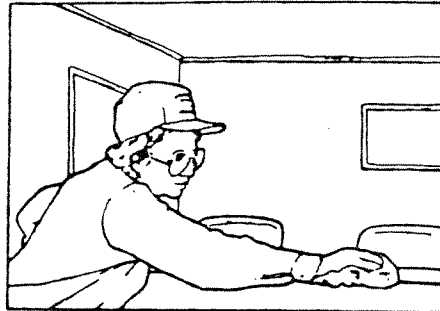


- **Do not** use an ordinary vacuum to clean up asbestos debris.

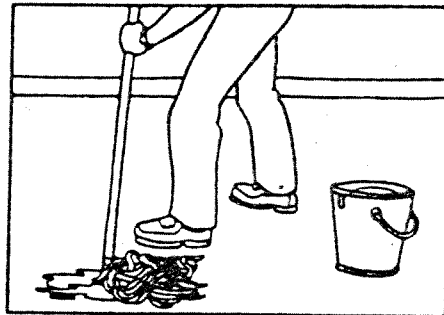


- **Do not** brush or sweep ceilings and walls covered with asbestos materials.

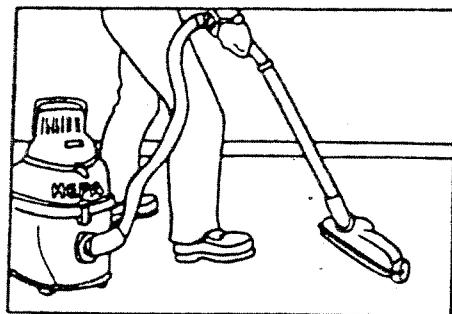
BUT THIS



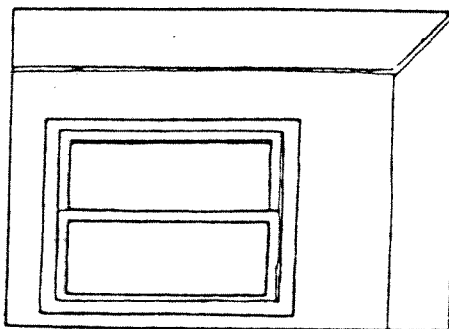
- Dust with a damp cloth.



- Wet mop floors.



- Use only a special HEPA vacuum to clean up asbestos debris.

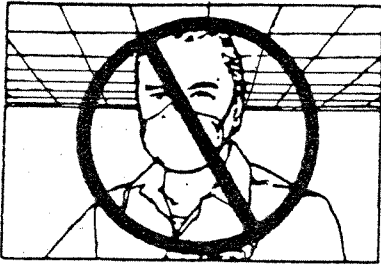


- Avoid touching or disturbing ceilings and walls covered with asbestos materials.

GENERAL MAINTENANCE

(Take care when doing routine maintenance jobs around asbestos materials.)

NOT THIS

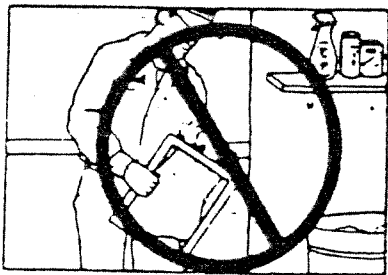


- **Do not** use a dust mask. It does not protect you against asbestos fibers.



If you have to remove ceiling tiles below asbestos material:

- **Do not** start work without protection.
- **Do not** allow other people in the area.
- **Do not** leave dust and debris after you have finished.



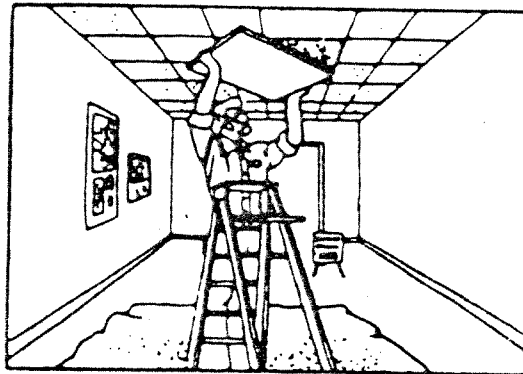
If you change filters in the Air Ventilation System:

- **Do not** remove the filter dry.
- **Do not** shake the filter. Asbestos fibers could be released.

BUT THIS



- Wear a respirator that is approved for work with asbestos.



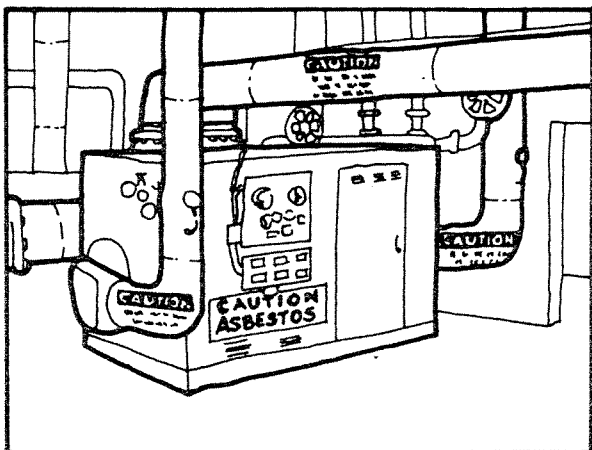
- Wear an approved respirator
- Clear the area of other people
- Use a drop cloth and clean up carefully after each job.



- Mist the filter with water.
- Remove the filter carefully.
- Dispose of properly.

BOILER ROOM MAINTENANCE

(Take special care when working in boiler rooms.)

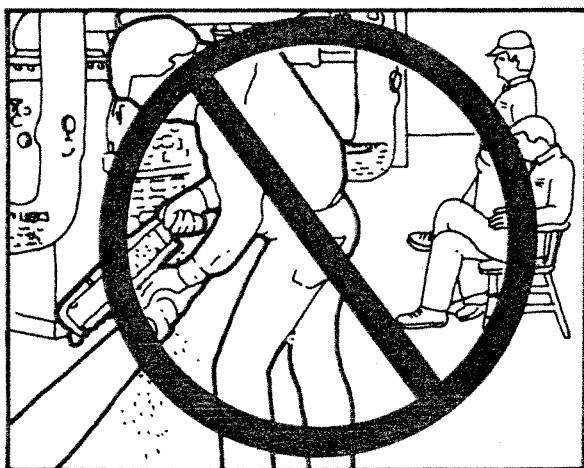


- Suggest that pipe insulation containing asbestos be labeled with "CAUTION - ASBESTOS".



- Report all damage you see to your supervisor.
- Obtain instruction on how to repair damaged insulation.

NOT THIS



If you have to repair boilers or pipes that have asbestos insulation:

- **Do not** start work without protection.
- **Do not** allow other people in the area.
- **Do not** allow asbestos material to fall on the floor.
- **Do not** allow asbestos fibers to be released into the air.

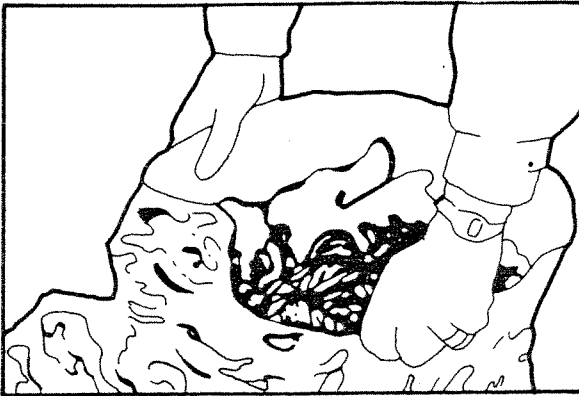
BUT THIS



- Wear an approved respirator.
- Clear the area of other people.
- Use a drop cloth.
- Use a glove bag (ask your supervisor for details).
- Clean up carefully.

DISPOSAL

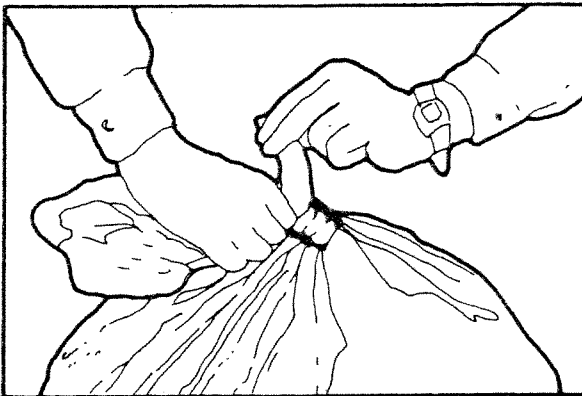
(All cleaning materials and other asbestos waste must be disposed of properly.)



- Place all dampened filters, cloths, mopheads and other asbestos wastes in double ply (6 mil) plastic bags.



- Label each bag with a sign:
"CAUTION: Asbestos Waste".



- Seal the bag with heavy duty tape.



- Call the City landfill one day prior to delivery of ACM waste. Transport the containers to the landfill and follow instructions of the landfill operator.

ACTIONS TO TAKE

(By taking the right action you can reduce the risk of exposure to asbestos.)

- KNOW WHERE THE ASBESTOS IS IN YOUR BUILDING.
- IF YOU FIND MATERIALS THAT COULD CONTAIN ASBESTOS RECOMMEND TO YOUR SUPERVISOR THAT THEY BE TESTED.
- ASK YOUR SUPERVISOR FOR TRAINING IN PROPER WAYS TO WORK AROUND ASBESTOS MATERIALS.
- IF YOU SEE ASBESTOS MATERIALS THAT HAVE BEEN DISTURBED REPORT THE DAMAGE TO YOUR SUPERVISOR.
- IF THE CLEANING OR MAINTENANCE IN YOUR BUILDING IS BEING DONE IMPROPERLY SEE THAT IT IS CORRECTED.
- KEEP ON HAND ITEMS USEFUL FOR WORKING ON OR AROUND ASBESTOS MATERIALS. THESE INCLUDE DISPOSAL BAGS, RESPIRATORS, TOOLS FOR WORKING ON INSULATION, DISPOSABLE COVERALLS, DROPCLOTHS, WATER BOTTLES FOR MISTING FILTERS, GLOVE BAGS, ETC.



TEST YOUR KNOWLEDGE

1. WHAT TYPES OF BUILDING MATERIALS MAY CONTAIN FRIABLE ASBESTOS?
2. WHAT SPECIAL EQUIPMENT IS USED TO CLEANUP ASBESTOS DEBRIS?
3. HOW DO YOU DISPOSE OF ASBESTOS WASTE AND DEBRIS?
4. WHAT SHOULD YOU DO WHEN YOU FIND DAMAGED ASBESTOS CONTAINING MATERIAL?
5. WHAT ARE SOME USEFUL ITEMS FOR WORKING ON OR AROUND ASBESTOS CONTAINING MATERIALS?

IF YOU CAN ANSWER ALL OF THESE QUESTIONS CORRECTLY, YOU SHOULD HAVE NO PROBLEM DEALING WITH ASBESTOS-CONTAINING MATERIALS.

IF NOT, YOU SHOULD REVIEW THIS MATERIAL AGAIN.